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THE DIMINISHED DOLLAR AND RAILWAY RATES.

BY H. T. NEWCOMB, OF THE BAR OF THE DISTRICT OF COLUMBIA.

American industry is confronted by the imminent calamity of inadequate transportation facilities. For twenty years, in spite of a rapidly increasing dependence upon railways as a means of moving domestic and foreign commerce, the construction of railways has failed to keep pace with the growth of productive industry. For two decades investors have recognized the existence of superior opportunities in other fields than that of transportation; and, although capital seeking American investment has been more abundant than ever, the proportion devoted to supplying new and improved railway facilities has been so meagre that already commerce has sharply felt the pressure of inadequate means of transportation. The Interstate Commerce Commission, in their twentieth annual report, at the close of the year 1906, made the following statement:

> "The extraordinary prosperity which everywhere abounds, with the high prices obtainable for all classes of commodities, have so stimulated production as to yield a volume of transportation business which far exceeds in the aggregate the carrying capacity of the railroads. In a word, the development of private industry has of late been much more rapid than the increase of railway equipment. . . .
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> "In some cases it is simply a lack of cars, in others insufficient tracks and motive power, in still others wholly inadequate freight-yards and terminal facilities. . . .
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> "Broadly speaking, it does not appear that the existing congestion, amounting in many cases to a virtual paralysis of business, results so much from insufficient car capacity . . . as from the lack of adequate tracks and motive power, delays in loading and unloading, and terminals far too small for current requirements. . . .
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> "A situation of such gravity calls for every remedy that can be usefully applied."

A year later the Commission found the situation less serious, but regarded the partial relief as by no means permanent. The following is from the report submitted on December 23rd, 1907:

> "The general question of the provision of adequate transportation facilities unquestionably merits serious consideration by Congress. The whole problem, involving insufficient car and track capacity, congested terminals, slow train movement and other incidents, may be said to be due to the fact that the facilities of the carriers have not kept pace with the commercial growth of the country. . . .
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> "If business undertakings proportionately increase during future years, the railroads of the country must add to their tracks, cars and other facilities to an extent difficult to estimate. The ability of the carriers to transport traffic measures the profitable production of this vast country, with its ninety millions of people, abundant capital and practically unlimited resources. Manifestly, it is an economic waste for the farm, the mine or the factory to put labor and capital into the production of commodities which cannot be transported to market with reasonable despatch. If the present output cannot in many instances be transported except after ruinous delays, it is not reasonable to presume that capital will readily seek investment in new undertakings. It may conservatively be stated that the inadequacy of transportation facilities is little less than alarming; that its continuation may place an arbitrary limit upon the future productivity of the land, and that the solution of the difficult financial and physical problems involved is worthy the most earnest thought and effort of all who believe in the full development of our country and the largest opportunity for its people."

The startling condition thus graphically portrayed is none the less alarming because a period of business depression, which all believe to be temporary, has, for the time being, removed the pressure which so plainly disclosed the urgent need of better and more extensive means for moving traffic. The reaction certain to occur among a resourceful, progressive and energetic people began promptly; and it is already evident that it cannot be long before the conditions of 1906 and 1907 are repeated, perhaps with augmented intensity. It is to be borne in mind that the shortage of transportation facilities was not, like the panic of 1907, a matter of sudden development. The slackening pace of railway construction long ago began to lag behind the growth of general industry. The following table shows the increase of the United States in population, wealth, foreign commerce and railway mileage from 1867 to 1887, and from 1887 to 1907, and discloses the fact that during the first half of the last forty years the American people, though much smaller in numbers and possessed of far less wealth than during the second half, were able and willing to construct 36.45 per cent. more miles of railway:

	Population.	Wealth.	Value of foreign commerce.	Miles of railway.
1867	36,211,000	$25,895,847,400	$879,165,307	39,050
1887	58,680,000	58,618,563,700	1,408,502,979	149,214
1907	85,817,239	121,044,390,774	3,315,272,503	229,951
Increase, 1867 to 1887;				
Amount	22,469,000	32,722,716,300	529,337,672	110,164
Per cent.	62.05	126.36	60.21	282.11
Increase, 1887 to 1907;				
Amount	27,137,239	62,425,827,074	1,906,769,524	80,737
Per cent.	46.25	106.49	135.38	54.11

It is not unsuggestive, in connection with the foregoing figures, that during the first two decades interstate railways were unrestricted by Congressional enactments, and that during the second period they were subject to progressively increasing control under Interstate Commerce laws. It is sharply significant that a population numbering, at the beginning of the first period, but 36,211,000 should build 110,164 miles of railway in twenty years, though one of 58,680,000 should build but 80,737 miles in the next period of equal duration. From 1867 to 1887, the people of America built a mile of railway for each 329 of their number in 1867; from 1887 to 1907 they built a mile for each 727 in 1887. Every $10,000,000 of the people's wealth in 1887 included twenty-five miles of railway; by 1907 the ratio had been reduced to nineteen miles to each $10,000,000 of wealth. The number of miles of railway in 1887 to each $10,000,000 of foreign commerce was 1,059; in 1907 it was 694. From 1867 to 1887 the railway mileage of the United States was increased at the rate of 5,508 miles a year; from 1887 to 1907 the annual rate of increase was 4,037 miles, though wealth and industry had more than doubled and population had increased by two-thirds. These comparisons would be meaningless if the supply of railway facilities was ample or nearly ample, but recent reports of the Interstate Commerce Commission have shown that this is not the case.

The real cause it is not difficult to discover. It is a commonplace of economics that demand creates supply; but the kind of demand that is meant is defined as "effective" demand—that is to say, desire to purchase coupled with willingness and ability to pay a price equal to the cost of the last necessary increment of the supply. The effective demand for railway transportation has been restricted by legislation and its potency limited by agitation, and by an apparent condition of public sentiment which many investors, with proverbial timidity, have construed as threatening its further statutory restriction. The effective demand which could create an adequate supply of railway facilities must be expressed in terms of rates for moving passengers and property; and, consequently, the degree in which demand falls short of satisfactory effectiveness is itself a deficiency in the rates warranted by law and by public sentiment. Permission to charge adequately for services performed is thus seen to be the essential prerequisite of complete ability to perform the services sought by industries that are actually dependent upon railway transportation. The Chairman of the Interstate Commerce Commission, the Hon. Martin A. Knapp, out of the fulness of his long and rich experience in the supervision of railway business and the earnest study of railway problems, has recently expressed this view in terms so convincing in their logic, so plain in their intimations and so fair and reasonable, that his words ought to silence opposition to the action they suggest. He said:

> "The question of railroad rates, that is to say, of railroad revenues, involves a great deal more than the direct interest of shippers or shareholders. Broadly speaking, it is a question of national policy second to none in its economic importance.
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> "Leaving out of account the comparatively small number of actual shippers and security-holders, I suggest three aspects of the question which are of general and intense public concern. The country, as a whole, needs and must have, if it is to grow and prosper as it ought, railway earnings sufficient for three things:
>
> "(1) The payment of liberal wages to an adequate number of competent men . . . in a service which is all the while becoming more exacting, and on which the safety and convenience of the public constantly depend. . . .
>
> "(2) A reliable return to railway capital sufficient to induce the construction without delay of hundreds and thousands of miles of new railroads to further develop the country and meet the transportation demands of the immediate future. . . . Must we not, in the public interest, make railroad construction so attractive and profitable that the necessary capital will be forthcoming? Otherwise, must we not come measurably to a standstill and face a future of comparative stagnation?
>
> "(3) The betterment of existing lines so as to greatly augment their

serviceableness to the public, as can in varying degree be done everywhere, without any increase of capitalization that can be fairly avoided."

No one whose interest runs not contrary to the general welfare can profit from railway rates which fail fairly to compensate either labor or capital, or to supply an adequate incentive to further and needed railway construction, or to provide fully for that liberal maintenance of railway property which amounts to its steady and ultimately extensive improvement.

Current railway rates have been rendered seriously inadequate by the insidious operation of a force that, unrecognized at the beginning and not as yet fully understood by many, has already compelled readjustments in the wages of all classes of labor and in the prices of nearly all commodities and services save those supplied by the railways. This force is the steady and extensive decline in the value of gold which has been in uninterrupted progress since the year 1897. The American dollar, still consisting of the same number of grains of the same degree of fineness, has diminished in value since 1897 as actually as though an Act of Congress in that year had reduced its 25.8 grains to 16.8, and in about the same proportion. It will be worth while to devote a little attention to the nature and extent of this change.

When the practice of barter gave place to interchanges effected by means of a circulating medium, civilization took a long step forward. Though the utilization of money, whether in the form of wampum, cattle, tobacco, more or less definite promises to pay, or coined metal, vastly simplified the process of exchange, it so far complicated economic theory as to give rise to a long series of misapprehensions. Hence, in America, greenbackism, free-silver-sixteen-to-oneism and current misunderstanding of the recent movement of railway rates. Men use money to buy commodities; they also use commodities to buy money. Both parties to a transaction of purchase and sale are at once buyers and sellers; if A buys a bushel of wheat from B for a dollar, B at the same time buys a dollar from A for a bushel of wheat. If at some subsequent time A pays B two dollars for a bushel of wheat the price of wheat has gone up; but, B having bought two dollars with one bushel of wheat, the cost of dollars, at least to B, has gone down.

The United States Bureau of Labor, through compilations based upon records of prices originated by Carroll D. Wright and continued by his successor, Charles P. Neill, has obtained data which greatly assist in measuring the fluctuations in the value of money. These data, presented in the form of "index numbers," show the average cost of the same quantities of articles of different classes during successive periods. The following table is based upon Bulletin No. 75 (March, 1908):

Class of Articles.	Cost of the same quantities of articles of each class. 1897.	1907.	Per cent. increase.
Farm products	$0.85	$1.37	61.2
Food	.88	1.18	34.1
Cloths and clothing	.91	1.27	39.6
Fuel and lighting	.96	1.35	40.6
Metals and implements	.87	1.43	64.4
Lumber and building materials	.90	1.47	63.3
Drugs and chemicals	.94	1.10	17.0
House-furnishing goods	.90	1.18	31.1
Miscellaneous	.92	1.27	38.0
Average	.90	1.30	44.4

The foregoing shows that, as to the articles represented, one dollar would buy as much in 1897 as $1.44 would buy in 1907. Therefore, as to these articles, a dollar was worth in 1907 only as much as seventy cents was worth in 1897. The data in the table also show that, as to the producers of these articles, $1.44 was as easily procured in 1907 as was one dollar in 1897. If the list included rent, personal services, amusements and transportation, the resulting average would more adequately disclose just what has occurred; but, even without these elements, it greatly illuminates the situation. Concerning wages, another bulletin of the Bureau of Labor (No. 77, July, 1908) shows that between 1897 and 1907 the average wages per hour of the average employee advanced in the proportion of 996 to 1,288 or 29.3 per cent. So the average wage-earner obtained $1.29 as easily in 1907 as he could one dollar in 1897.

Sane men value money only for what it will purchase, and railways are, in this respect, *ex necessitate rei,* sane. The railway dollar of to-day is a greatly diminished dollar, as compared with its predecessors of previous years, when it is used to recompense railway labor or to buy railway materials and supplies; but, unlike the dollar of most producers and of nearly all wage-earners, the difficulty of obtaining it has in no degree diminished. Railways receive less for identical services than ten years ago.

Out of every dollar earned by the railways of the United States, in excess of the sums required to pay interest on their debts and taxes, during the year 1907, the latest year for which data have been published by the Interstate Commerce Commission, forty-nine cents was paid out to railway employees in wages or salaries. The total of these payments, in 1907, was $1,072,386,427; and from July 1st, 1898, to June 30th, 1907, it was $7,316,083,633. The following official figures show how railway wages have advanced and how the dollar used to pay wages has diminished:

	Wages per day.		
	1897.	1907.	Per cent. increase.
Station agents	$1.73	$2.05	18.5
Other stationmen	1.62	1.78	9.9
Enginemen	3.65	4.30	17.8
Firemen	2.05	2.54	23.9
Conductors	3.07	3.69	20.2
Other trainmen	1.90	2.54	33.7
Machinists	2.23	2.87	28.7
Carpenters	2.01	2.40	19.4
Other shopmen	1.71	2.06	20.5
Section foremen	1.70	1.90	11.8
Other trackmen	1.16	1.46	25.9
Switchmen, flagmen and watchmen	1.72	1.87	8.7
Telegraph operators and despatchers	1.90	2.26	18.9
Employees, account floating equipment	1.86	2,27	22.0
All other employees and laborers	1.64	1.92	17.1
Average	2.00	2.39	19.5

It appears from the foregoing that the railways paid, in 1907, substantially $1.20 to the average employee for service which cost only one dollar in 1897; in other words, every railway dollar of 1907 intended for the payment of wages had diminished, as compared with its fellow of 1897, to about eighty-four cents. The real diminution was greater; for the day's service of 1907 was less, on the average, than the day's service of ten years before.

Eighteen cents, out of every dollar of earnings left to the railways in 1907, after paying taxes, interest and wages, was used for the purchase of fuel for locomotives, the sum so expended being $200,261,975. In 1897, the average dollar expended for fuel was sufficient to move traffic producing $17.25 in gross receipts; in 1907 this had been reduced to $12.93. Between 1897 and 1907 bituminous coal advanced, on the average, from $1.80 to $2.80 per ton and anthracite from $3.50 to $4.50; thus the dollar used to buy bituminous coal had diminished to sixty-four cents and that used for anthracite to seventy-eight cents.

Steel rails, which cost $18.75 per ton in 1897, cost $28.00 in 1907; locomotives, which cost $10,181 and $11,026, advanced to $14,111 and $15,734, respectively; all classes of cars became much more costly; lumber, ties and metalwork of all kinds greatly increased in price—in fact, wherever there was a purchase to be made, it was found that the money to make it with was composed of diminished dollars. In this respect, the experience of the railways was in no wise different from any other employer of labor or purchaser of commodities. The especial hardship to the railways, which they share with a few salaried employees and those whose incomes are based upon contracts made before the depreciation of the dollar began or was anticipated, grows out of the fact that the price of that which they have to sell—viz., transportation—has not been adjusted to the changed value of the money in which they are paid. Railway rates, even as measured by diminished dollars, are lower now than they were ten years ago; when the depreciation in the value of these dollars is considered, it appears that the real reduction in railway rates that has taken place in the last decade has exceeded all safe and reasonable or proper bounds.

The figures in the second and third columns below show average rates as reported by the Interstate Commerce Commission; those in the last two columns are based upon the assumption that the present value of a dollar in the hands of a railway is equal to eighty cents in 1897—probably an excessive estimate:

	Average rates in mills.			Decrease in real rates from 1897 to 1907.
		1907.		
	1897.	Nominal.	Real.*	Per cent.
Per passenger per mile......	20.22	20.14	16.11	20.3
Per ton of freight per mile..	7.98	7.59	6.07	24.0

Thus, on the very moderate estimate of a twenty-per-cent. diminution in the value of the money with which passenger-tickets are bought and freight bills paid, it appears that there has been, in ten years, an average reduction of one-fifth in railway passenger-rates, and of nearly one-quarter in railway freight-rates. The enormous extent of these reductions is apparent when it is considered that in one year the transportation performed by the railways of the United States was equal to moving 27,718,554,030 passengers and 236,601,390,103 tons of freight one mile.

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* Calculated on the basis of money of equal value to that received in 1897.

One mill per passenger and per ton of freight per mile carried, for these aggregates, would amount to $264,319,944, a sum roughly equal to one-half of the annual payment to the owners of all railway bonds and shares now owned by all classes of investors.

Few realize how very small are the sums received by railways when proportioned to the services they perform. To move a mass weighing two thousand pounds a distance of a mile involves a stupendous struggle in overcoming natural forces; yet (excluding weight of equipment) this task is performed some two hundred and forty billion times in the course of a year by American railways. And some railways are so situated, with regard to the sources of traffic and the kinds of freight which they can obtain, that they are regularly forced to depend upon receiving scarcely more than an average rate of half a cent per ton of freight per mile for their services; a few obtain even less.

The cost of moving a bushel of wheat one thousand miles at the average rate applied to this commodity when shipped in carload quantities over nine of the largest railways in different sections of the United States, 5.62 mills per ton per mile, would be 16.86 cents; while, at the average rate of the same companies, a bale of cotton, weighing five hundred pounds, would move an equal distance for $3.14. The average bushel of wheat was worth 87.4 cents on the farm of the producer in 1907, and the average bale of cotton was worth $52.00; so that the former could be moved one thousand miles for 19.3 per cent of its farm value and the latter for 6.0 per cent. Many railways would receive much less for moving either commodity this distance. The corresponding prices of 1897 for wheat and cotton were 80.8 cents and $33.00, respectively; so that, at the same rates as those in force in 1907, it required 20.9 per cent. of its value to move wheat and 9.5 per cent. of its value to move cotton one thousand miles. At the average for grain, a bushel of corn would move one thousand miles for 16.216 cents, and the farm value of corn was 26.3 cents per bushel in 1897 and 51.6 cents in 1907. These, however, are all articles of low value in proportion to their bulk and weight; and, in spite of the low rates, it is inevitable that they should pay a relatively larger proportion of their value for transportation than articles of other classes. An exceedingly valuable table prepared by Mr. C. C. McCain, Chairman of the Trunk Line Association, and one of the foremost American authorities on rates and rate-making, shows that but a small proportion of the value of articles of common consumption is really absorbed by the cost of railway transportation. According to this table, an advance of ten cents per one hundred pounds in the rate on men's boots and shoes would amount to but one-third of one cent per pair; while an advance of eight cents per hundred pounds in the rate on cotton goods would amount to only one cent on each one hundred yards. The present rate on men's shoes is but two and one-half cents per pair, while that on cotton goods is less than three-quarters of one mill per yard. The rate on clothing is 5.6 cents per suit; and, if it were doubled, which no one suggests, the additional cost of a suit of clothes, if every cent of the increased rate were paid by the wearer, would amount to less than six cents.

The present situation is untenable. As has been shown, fair and adequate railway rates are essential, not merely to the prosperity of the railways, but to that of the whole country and all its industries; there has been an unsolicited and unnecessary reduction from the reasonable rates of 1897, a reduction due to causes so subtle in their operation that the process and its consequences passed for a time unnoticed; the moderate advance sufficient to offset, in part at least, the evil results of this decline would not be noticed by most consumers and would but slightly affect any. This course would so distribute the cost of the readjustment that has been made absolutely necessary by the great change in the value of money as to lay no severe burden upon any individual or any industry. The alternative is too painful for other than enforced consideration. An increase of three or four per cent. in average rates would distribute a gain of about $50,000,000 over two hundred and thirty billion ton-miles of freight transportation; to gain the same amount by a reduction in wages would throw the whole burden upon about one and one-half millions of employees and their families. Doubtless the effort to impose this burden upon a restricted class would be resisted, and before resorting to it every possible effort to adjust the loss in some other way would be made. One direction toward which such an effort might tend would parallel what actually happened when railways were under similar pressure due to the industrial depression of 1893. Professor Henry C. Adams, Statistician to the Interstate Commerce Commission, then reported a reduction in the number of railway employees from 873,602 to 779,608, and one in operating expenses from $827,921,299 to $731,414,322. He discusses them in part as follows:

> "The reduction has been universal in all classes of employees, but greatest in the case of employees engaged in maintaining the character of the roadway, and least in employees engaged in conducting transportation.
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> ". . . The economy practised by the railways must result in deterioration of roadway. . . . The number of section foremen in 1894 is about the same as in 1893, but the number of trackmen in 1894 is 150,711 as against 180,154 in 1893. The reduction in the number of laborers and employees not otherwise specified was 19,890. What the effect of this is likely to be upon the character of track and consequent safety of travel need not be suggested. . . .
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> ". . . The amount expended . . . for the maintenance of way and structures was $143,669,386, a decrease, as compared with 1893, of $25,588,990, which is equivalent to a percentage decrease of 15.12 per cent. The expenditure for maintenance of equipment was $112,894,526, which shows, as compared with the previous year, a decrease of $23,981,383, a decrease of 17.52 per cent. The amount expended for conducting transportation during the year was $394,513,035, a decrease of $40,952,540 as compared with the previous year, a decrease equal to 9.40 per cent. The amount charged to the account of general expenses was $79,771,497, which shows a decrease of $5,777,340, a decrease of 6.76 per cent. . . .
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> "This indicates in another manner that relatively greater saving was obtained in maintenance of structures and equipment than in conducting transportation or in the general management of the business."—"Statistics of Railways in the United States," 1894, pp. 35, 36, 65, 66.

The foregoing is only another way of saying that sudden and compulsory economy in this field is substantially certain to be at the expense of the property—that is, through the destruction of capital. This would be bad enough, through its plain implication as to the ultimate quality of the service should the process be long continued, even were present railway facilities adequate to the needs of this great industrial nation. But it has already been made clear that they are not adequate. At a moderate estimate, a sum equal to at least two-thirds of the total cash cost of the railways of the United States must be expended on their improvement and extension within the next twenty years, if they are to meet the requirements of progressive American industry. Already capital has ceased to flow readily into railway investments; deterred somewhat by an apparently adverse sentiment on the part of a portion of the public that is, perhaps, not quite so influential as is often too hastily assumed, and diverted by the newly acquired attractiveness to the general investor of other industrial fields not formerly so freely bidding for his support. Capital borrowed by American railways in 1897 cost on the average 3.90 per cent. *per annum,* while that borrowed in 1907 cost 4.62 per cent., and that obtained during the first seven months of 1908 cost 5.04 per cent. The rise from 1897 to 1907 was 18.5 per cent., and here too the diminished dollar was worth only as much as eighty-four cents in the earlier year. In 1907 and the first seven months of 1908, the railways of this country borrowed no less than $144,829,970 at six per cent. *per annum* or higher, though during the previous ten years, 1897 to 1906, they had paid that rate on but $32,679,354 out of loans aggregating $4,491,706,968. In 1907 and to the end of July, 1908, they obtained but $423,000 at less than four per cent., although in the years 1897 to 1906, inclusive, they had borrowed $1,088,717,180 at from three to three and three-fourths per cent. *per annum.* As the railways have no funds out of which to pay interest, except those earned by the services they perform, it is inevitable that the cost of the conditions which produce these higher interest-rates must ultimately be borne by the travelling and shipping public. Unless it is desired that the conditions of 1907 and 1908 should continue or be repeated, perhaps in more acute form, it is essential that there should be undisputed opportunity to obtain fairly remunerative rates, and that the propriety of the changes necessary to restore a reasonable level of rates should be frankly accepted. Otherwise those upon whom the evolution of methods of industrial association has imposed the tremendous task of paying a just and liberal scale of wages to the highly intelligent and capable railway employees who perform such serious and responsible functions in the public service, and, at the same time, of maintaining the great properties in their charge in safe, efficient and satisfactory condition, and, within ten or twenty years, of obtaining from seven to eight billions of dollars for the improvement and extension of those properties, will fail in their endeavor. And if they fail the calamity of their failure will fall not upon them alone, but upon every worker in America.

H. T. NEWCOMB.